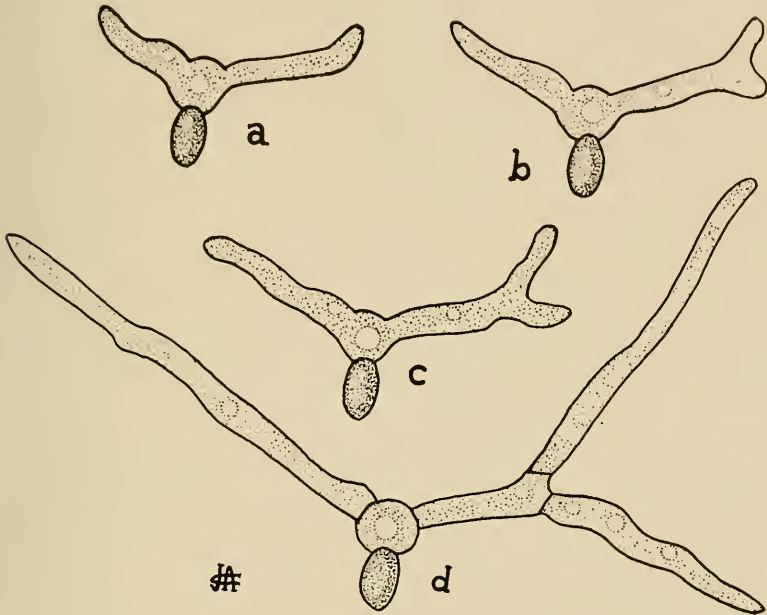


## A plant suitable for classroom demonstration of growth

CONST. J. ALEXOPOULOS

During the progress of some growth studies on a species of *Anthostomella*, it occurred to the writer that this fungus might be of value for study and demonstration of rapid growth in elementary classes in Botany and Biology and that teachers engaged in this work might be interested in knowing the facts presented in this note.<sup>1</sup>



The particular species of *Anthostomella* under investigation, presumably a saprophyte, was isolated from diseased bark of Elm by Mr. H. H. Harris in 1932 and has been growing in pure culture since then.

This fungus makes a rapid growth on agar media at room temperature and may conveniently be used in the classroom for growth studies. Growth of the mycelium issuing from the ascospore is sufficiently rapid to enable the student to detect differences in length of the mycelial tubes under the microscope

<sup>1</sup> The writer will be glad to furnish a transfer of the organism to anyone interested, upon receipt of a sterile slant of nutrient agar.

every few minutes. The drawings presented in the accompanying figure represent different stages in the growth which has taken place on maltose agar during a period of two hours. The first drawing (a) was made at 8:45 p. m., the second (b) at 9:00 p. m., the third (c) at 9:15 p. m., and the fourth (d) at 10:45 p. m. Thus, during the usual two hour laboratory period a student is able to make several drawings of different stages of growth and to take measurements at regular intervals from which the rate of growth of this organism may be calculated. At the same time he is enabled to follow the formation of septa in the mycelium and to study such structures as vacuoles etc.

In connection with such classroom studies, it is well for the instructor supervising the work, to plant the ascospores to be studied on the agar plates, eight to twelve hours before observation is to begin, this being the time required usually for ascospore germination. When the first observation is about to be made, the Petri dish is uncovered and a thin cover-glass is placed on the surface of the agar covering the germinating ascospores. By following this procedure, studies can be made by the use of the high power objective of the microscope whereas without the cover glass, the lens, because of its proximity to the moist surface of the agar, will cloud very quickly.

Some of the other advantages of this fungus besides its rapid growth which make it very suitable for elementary studies are the following: The mycelial threads are stout, hyaline when young and brown when old. The septa are placed fairly close together and are sharply differentiated in the older brown mycelium. The fungus produces perithecia in abundance on the common laboratory agar media, the spores maturing about twenty days after inoculation. The perithecia are large, dark, and beaked. When these are crushed under a cover-glass, the numerous asci spread out, and the ascospores, because of their deep brown color, are sharply defined in their positions within the hyaline ascus. The ascospores are large, measuring 16-26 $\mu$  in length and can be easily observed under the low power and studied under the ordinary 44 $\times$  objective.

DEPARTMENT OF BIOLOGY, KENT STATE UNIVERSITY  
KENT, OHIO